

REMARKS

Claims 1-40 are pending. Claims 1, 2, 8, 9, 11, 13, 15-17, 22, 26, 27, 31, 32, and 35-37 have been amended to further move along the prosecution of this application, as well as address the Examiner's rejections under 35 USC 112. The specification has been amended to address the Examiner's with respect to Figures 6 and 7. Replacement drawings for Figures 1B, 2A, and 4 are attached hereto. No new matter has been introduced by these amendments.

Rejections under 35 USC 102

Claims 8, 9, 12-18, 20-21, and 26-31 are rejected under 35 USC 102(b) as being anticipated by the article by Sloan et al. Claims 8, 16, and 26 have been amended. In particular, the feature of determining a lighting characteristic associated with a texel of the texture map by sampling a center point of the texel has been incorporated into each of these claims. Sloan does not teach or disclose this feature. As acknowledged by the Examiner Sloan is silent as to defining a texture map associated with the image. The Applicants respectfully submit that Sloan teaches the use of computing the lighting function at corners of a triangle and nowhere does Sloan sample a center point of a texel as texels are not used for determining the lighting function in Sloan, as specified in amended claims 8, 16, and 26. Accordingly, claims 8, 16, and 26, as well as respective dependent claims 9, 12-15, 17-18, 20-21, and 27-31, are no longer anticipated by Sloan.

Rejections under 35 USC 103(a)

Claims 1-3, 10, 19, and 22-25 were rejected as being unpatentable over the article by Sloan et al. In light of the amendments and the arguments contained herein, the Applicants respectfully request reconsideration of these rejections.

Independent claims 1, 8, 16, and 22 have been amended. As mentioned above, the feature of determining a lighting characteristic associated with a texel of the texture map by sampling a center point of the texel has been incorporated into each of these claims. Sloan does not teach or disclose this feature. As acknowledged by the Examiner Sloan is silent as to defining a texture map associated with the image. The Applicants respectfully submit that Sloan teaches the use of computing the lighting function at corners of a triangle and nowhere does Sloan sample a center point of a texel, as texels are not used for determining the lighting function in Sloan, as specified in amended claims 8, 16, and 26. Furthermore, there is no motivation to modify Sloan to use a texel to determine the lighting function. Accordingly, claims 1-3, 10, and 19 are allowable in light of Sloan for at least these reasons.

Claim 22 has been amended to include the feature of program instructions for calculating a value representing a lighting characteristic for each of the texels without calculating a lighting function at triangle corners. As mentioned above Sloan teaches utilizing the corners of triangles to compute the lighting characteristics, as is typical, and not the use of sampling for the lighting function from a texel center point, i.e., standing at a center point of a texel to determine the lighting characteristics (see page 9, paragraph 31). Therefore, the embodiments described herein may be applied in real time, whereas

Sloan cannot be applied in real time. Accordingly, claims 22-25 are allowable for at least the above stated reasons.

Claim 32 and 34-40 were rejected as being unpatentable over the combination of the Sloan article in view of US Patent No. 6,639,595 to Drebin et al. Claim 32 includes the feature of a memory capable of storing data representing a texture map associated with an object of image, the texture map containing a texel, the texel associated with data describing a light field for a point within the texel according to a basis function. Applicants respectfully disagree with the Examiner's characterization that Sloan discloses this feature in section 4. While Sloan discloses that the transfer vectors can be stored in texture maps, nowhere does Sloan disclose that the data is for a light field within a texel according to a basis function. As stated previously, Sloan utilizes triangle vertices for the light calculation while claim 32 specifies that the light data is calculated for the point within the texel and not triangle vertices. Drebin does nothing to cure this deficiency. If the Examiner should maintain this rejection, the Applicants request that the Examiner specify where in Sloan a point within a texel is utilized to derive the light field. Claims 34 and 35 depend from claim 32 and are likewise patentable for at least the above stated reasons.

Claim 36 has been amended to include the feature of the illumination value derived without calculating the lighting function at triangle corners. As mentioned above, Sloan fails to teach or suggest this feature and relies on the use of triangle vertices and Drebin fails to cure this deficiency. Claims 37-40 are allowable over the cited combination for at least these reasons. In addition, claim 37 has been amended to include

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the feature that the illumination value is derived by a transfer function that samples a center point of a texel of the object. Sloan does not teach or disclose this feature.

Applicants further request the withdrawal of the rejection of claims 4-7, 11, and 33 as the corresponding independent claims have been amended and the features are not taught or disclosed, as discussed above, by any of the cited references (Sloan, Cignoni, Drebin, and Kobayashi).

In view of the foregoing, Applicants respectfully submit that all of the pending claims are in condition for allowance. A notice of allowance is respectfully requested. In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at (408) 774-6921. If any fees are due in connection with the filing of this paper, then the Commissioner is authorized to charge such fees to Deposit Account No. 50-0805 (Order No. SONYP025). A copy of the transmittal is enclosed for this purpose.

Respectfully submitted,
MARTINE PENILLA & GENCARELLA, LLP



Michael L. Gencarella
Registration No. 44,703

710 Lakeway Drive, Suite 200
Sunnyvale, California 94085
Telephone: (408) 749-6900
Customer No. 25920